



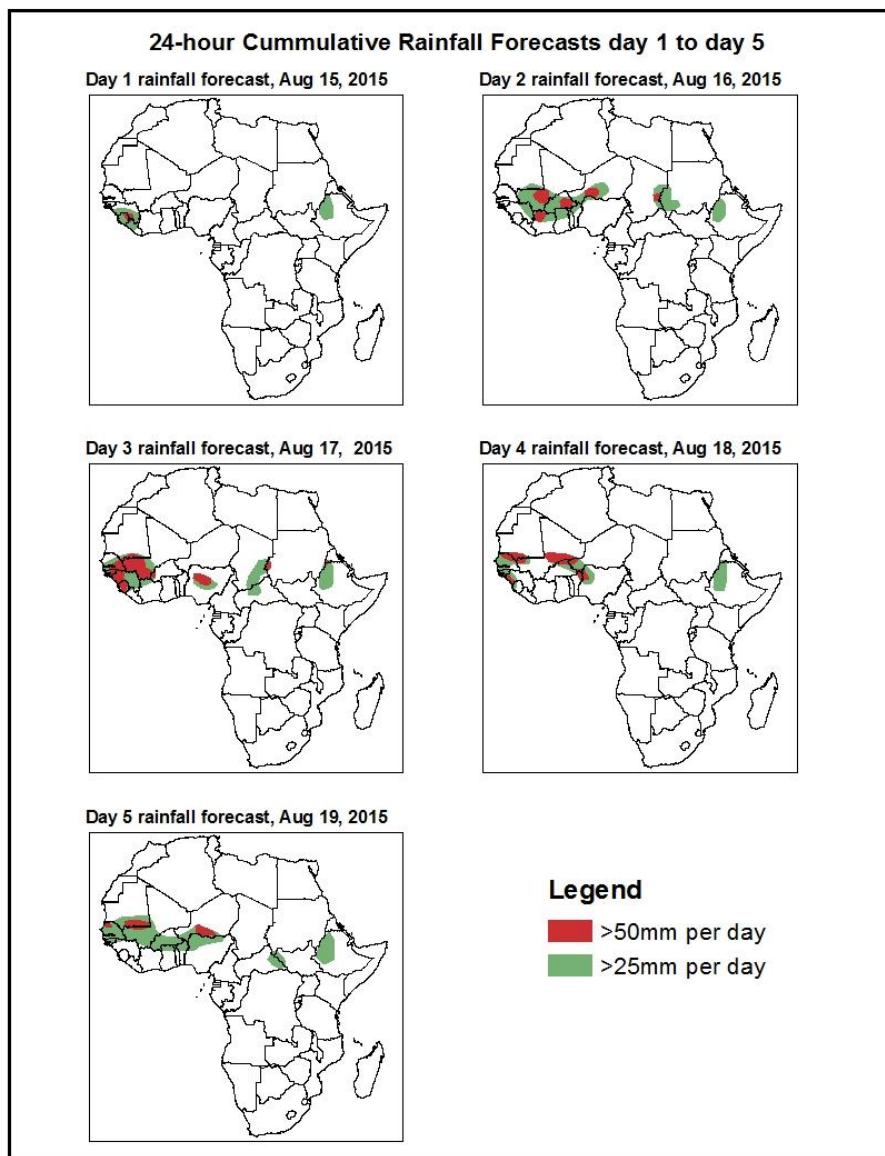
# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall and Dust Concentration Forecasts

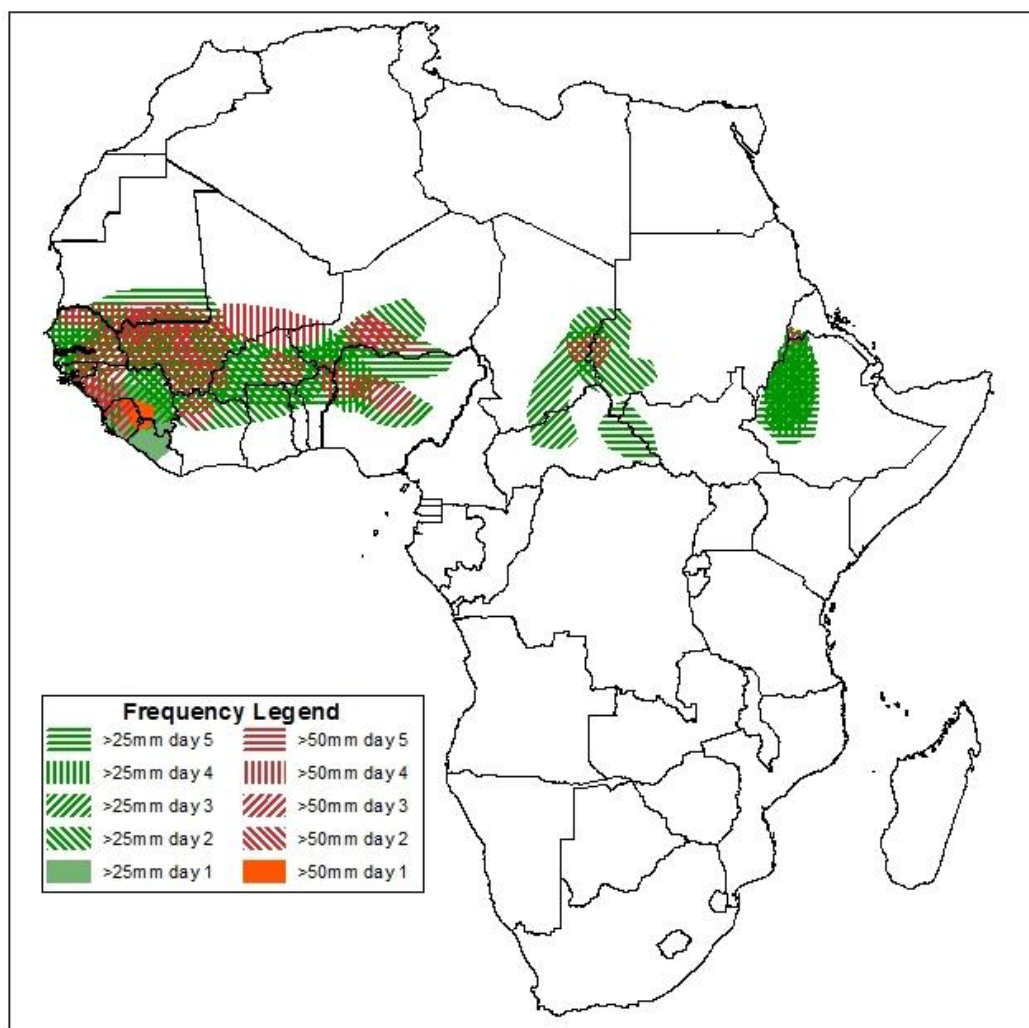
Valid: 06Z of Aug 15 – 06Z of Aug 19 2015. (Issued on August 14, 2015)

### 1.1. 24-hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of high probability of precipitation (POP), based on the NCEP/GFS, ECMWF and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



## Five Days Forecast Summary Aug 15 - Aug 19, 2015



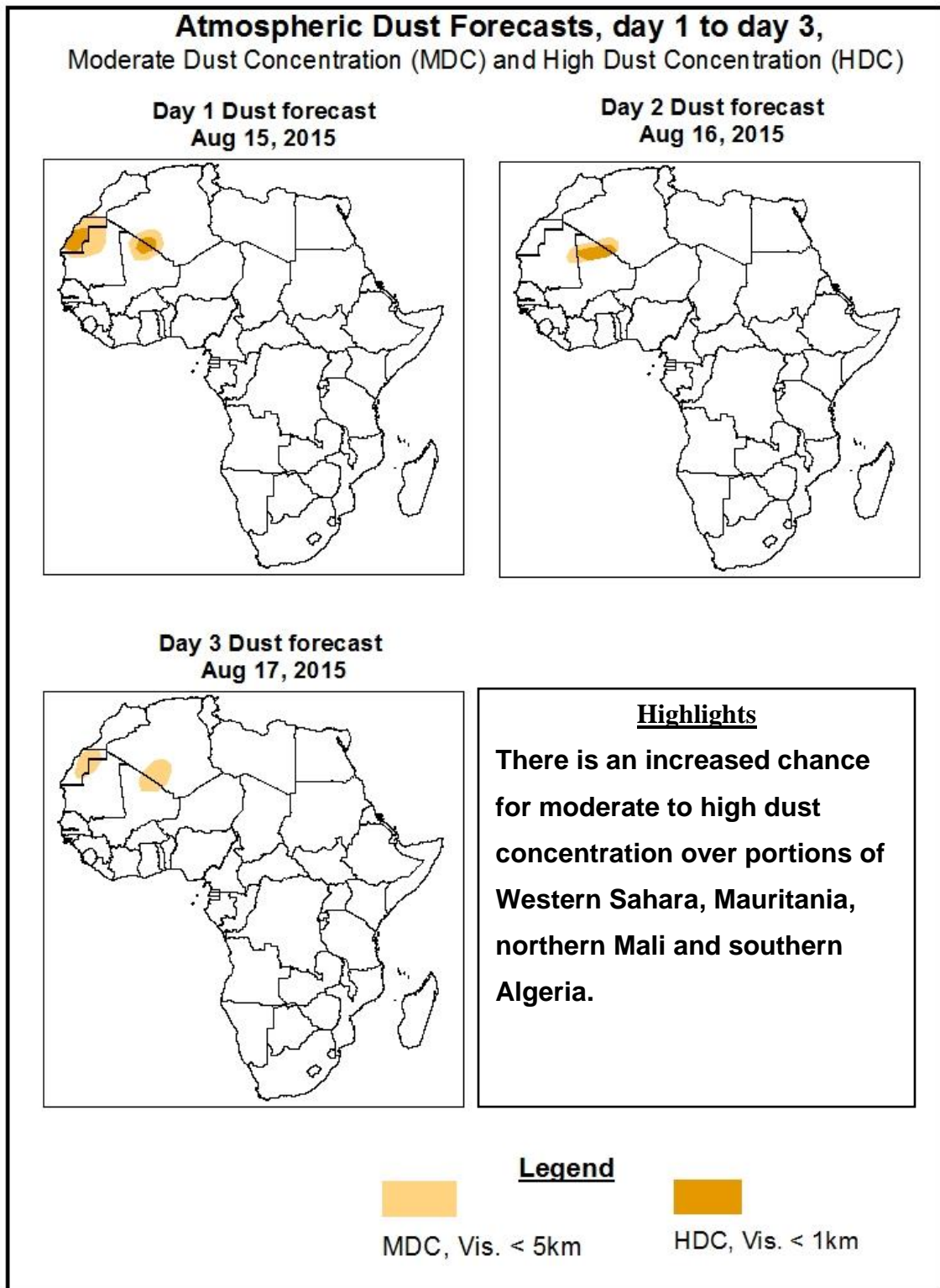
### Summary

- *In the next five days, westward propagating cyclonic circulation across West Africa with its associated trough in the easterly flow, and lower-level wind convergences across the Sahel region and parts of the Greater Horn of Africa are expected to enhance rainfall in their respective regions.*
- *There is an increased chance for frequent moderate to locally heavy rainfall across portions of the Sahel region and western Ethiopia.*

## 1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Aug 15– 12Z of Aug 19, 2015

The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



### **1.3. Model Discussion, Valid: Aug 15 – Aug 19, 2015**

The Azores high pressure system over Northeast Atlantic Ocean is expected to relax, with its central pressure value decreasing from about 1032hpa to 1023hpa during the forecast period, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to relax, with its central pressure value is increasing from about 1036hpa to 1032hpa through 48 to 120hours, according to the GFS model.

The Mascarene high pressure system over Southwest Indian Ocean is expected to relax, with its central pressure value decreasing from 1038hpa to 1032 during the forecast period, according to the GFS model.

The low over northern Mali is expected to shift towards Mauritania, while maintaining an average central pressure value of 1007hpa during the forecast period. The low over Chad is expected to deepen slightly, with its central pressure value decreasing from about 1007hpa to 1005hpa during the forecast period. On the other hand, the heat low over Sudan is expected to maintain an average central pressure value of 1005hpa, while the low over the Red is expected to remain quasi-stationary, with an average central pressure value of 1003hpa, during the forecast period.

At 925Hpa level, a cyclonic circulation over Mali is expected to shift westward, leaving the West Africa coast by 120hours. Zonal wind convergence is expected to prevail near the 15°N latitude, in the region between northern Niger and Sudan during the forecast period.

At 850Hpa level, a cyclonic circulation near the Mali/Mauritania border is expected to shift westward, leaving the West Africa coast towards end of the forecast period. Seasonal lower-level wind convergences are expected to remain active across the Sahel region, Sudan, portions of Ethiopia, South Sudan and northeastern DRC.

At 700hpa level, a trough in the easterlies is expected to propagate westwards across the Gulf of Guinea countries, during the forecast period, leaving the West Africa coast by 120 hours.

In the next five days, westward propagating cyclonic circulation and its associated trough across West Africa, and lower-level wind convergences across the Sahel region and parts of the Greater Horn of Africa are expected to enhance rainfall in their respective regions. There is an increased chance for frequent moderate to locally heavy rainfall across portions of the Sahel region and western Ethiopia.

## 2.0. Previous and Current Day Weather over Africa

(Valid: 13 – 14 August, 2015)

### 2.1. Weather assessment for the previous day (August 13, 2015)

Moderate to heavy rainfall was observed over central Guinea, local areas in southern Mali, northern Cote d'Ivoire, portions of Ghana, northern Nigeria, Niger, Chad, eastern CAR, western South Sudan, southern and eastern Sudan, northern DRC, Eritrea, and portions of Ethiopia.

### 2.2. Weather assessment for the current day (August 14, 2015)

Intense clouds were observed over southern Senegal, Guinea-Bissau, portions of Guinea, Burkina-Faso, northern Ghana, local areas in CAR, northern DRC, eastern Sudan and Ethiopia.

